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CLARIANT CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
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EXAMINER

NOTE, JANIS L

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/722,760

Applicant(s)

MICHEL ET AL.

Examiner

Janis L. Dote

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-10, 17 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) 4, 9, 10 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5-8 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1, 4-10, 17, and 22-24 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The examiner acknowledges the amendments to claims 1 and 5, the cancellation of claim 16, and the addition of claim 24 set forth in the amendment filed on Jun. 28, 2005. Claims 1, 4-10, 17, and 22-24 are pending.

2. The "Amendment to the claims" section filed on Feb. 9, 2005, did not comply with 37 CFR 1.121 for the reasons discussed in the "Notice of non-compliant amendment" mailed on May 31, 2005. Accordingly, the "Amendment to the claims" section filed on Feb. 9, 2005, has not been entered.

3. Applicants' election of species without traverse filed on Mar. 5, 2002, has been noted. The examiner has previously acknowledged the elected species, an electrophotographic toner or developer, and the elected ultimate species of invention, distearyldimethyl ammonium bentonite in preparation example 1 on pages 30-31 of the instant specification. See the office action mailed on May 1, 2002, paragraph 2.

Pursuant to the amendments to claims 1 and 5 and the addition of new claim 24, filed on Jun. 28, 2005, instant claims 1, 5-8, and 22-24 read on the ultimate elected species.

Claims 4, 9, 10, and 17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a

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nonelected species, there being no allowable generic or linking claim. Election was made without traverse in the election filed on Mar. 5, 2002.

4. The rejection of claim 16 under 35 U.S.C. 112, second paragraph, set forth in the office action mailed on Aug. 10, 2004, paragraph 6, has been mooted by the cancellation of claim 16 set forth in the amendment filed on Jun. 28, 2005.

The objection to claim 5, set forth in the office action mailed on Aug. 10, 2004, paragraph 7, has been withdrawn in response to the submission of currently amended claim 5.

5. The disclosure is objected to because of the following informalities:

In the amendment to the specification filed on Oct. 01, 2003, at page 13, lines 11-15, the symbols representing the chemical bond that is supposed to link the SO_2^- group to the CH group and the chemical bond that is supposed to link the SO_3^- group to the CH group in the chemical moieties are not located in the proper positions.

Appropriate correction is required.

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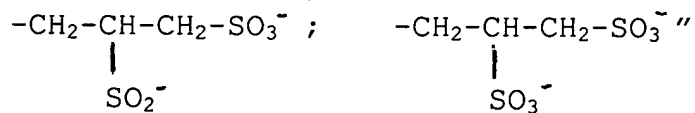
6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 is indefinite in the Markush group "one or more groups selected from the group consisting of -NH-CO-, -CO-NH-, -CO-O-, -O-CO-;" for improper Markush language. The group is missing the conjunction "and."

Claim 5 is also indefinite in the Markush group "R⁶⁹ and R⁷⁰ independently of one another represent hydrogen . . . or



The group is missing the conjunction "or" between the last two members of the group.

It is not clear whether the groups are closed. Proper Markush language is "R is selected from the group consisting of

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. . . and . . . " or "R is . . . or . . . " MPEP 2173.05(h) (8th ed., Rev. 2, May 2004).

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 1, 7, 8, and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Instant claim 1 and claims 7, 8, and 24, which depend from claim 1, recite that the cation is a "low molecular weight, nonpolymeric organic cation."

The originally filed specification does not provide an adequate written description of said "low molecular weight, nonpolymeric organic cation." The originally filed specification at page 9, lines 18-21, states that "[t]he low

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molecular weight organic cations are preferably substituted ammonium, phosphonium, thionium or triphenylcarbonium ions or a cationic metal complex. Preferred ions are low molecular weight, that is to say nonpolymeric, ammonium ions of the formulae (a)-(j)" (emphasis added). The originally filed specification does not disclose that the "low molecular weight organic cations" broadly recited in instant claim 1 are nonpolymeric. The term "low molecular weight, nonpolymeric organic cations" recited in the instant claims is broader than the disclosed "low molecular weight, nonpolymeric, ammonium ions of formulae (a)-(j)" because it includes low molecular weight, nonpolymeric organic cations that are not among the ammonium ions disclosed in the originally filed specification.

10. Claim 5 is objected to because of the following informalities:

At line 31, the "or" in the middle of the chemical formula $-(C_2H_4-NR)_{1-17}or-(CH_2)_{1-2}-$ is misplaced. The "or" should be removed from the formula and the phrase should read "or $-(C_2H_4-NR)_{1-17}-(CH_2)_{1-2}-$ ".

Appropriate correction is required.

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11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claims 1, 5-8, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 8-6295 (JP'295) combined with US 3,925,278 (Murai), US 4,992,262 (Nakagaki), and US 5,385,776 (Maxfield). See the THOMAS-DERWENT machine-assisted translation of JP'295 for cites.

JP'295 discloses a charge controlling agent composition that comprises the charge controlling quaternary ammonium salt compound (1) of Table 1 of JP'295 and the extender organic bentonite in a weight ratio of 50:50. Translation, Table 1 at page 21, line 1; and paragraph 0052, charge controlling agent composition 4. JP'295 adds the charge controlling agent composition to a binder resin of a toner. See the translation, paragraph 0054. The resultant toner comprises a binder resin, a colorant, and the charge controlling agent composition comprising the organic bentonite. The resultant toner is a positively chargeable toner that shows stable electrostatic charge performances under conditions of high humidity and high temperature, as well as under low humidity and low temperature. See the translation, Table 2, paragraph 0060, lines 1-12, and paragraph 0061. JP'295 discloses that when the extender in the

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charge controlling agent composition is not the organic bentonite, but aluminum hydroxide, the electrostatic charge performance of the toner comprising said charge controlling agent composition was not stable under conditions of high humidity and high temperature and of low humidity and low temperature. Translation, paragraph 0053, charge controlling agent constituent 5; Table 2, example 5; and paragraph 0060, lines 1-12. Thus, the addition of organic bentonite in JP'295's charge controlling agent composition helps to control or improve the charge of an electrophotographic toner and developer.

JP'295 does not identify the organic bentonite as distearyldimethyl ammonium bentonite as recited in instant claim 22. However, the term "organic bentonite" is usually defined as a bentonite impregnated with a cationic organic compound, such as a quaternary ammonium salt, e.g., dimethyloctadecylammonium bentonite. Murai, col. 1, lines 35-38. Nakagaki discloses that commercially available organic bentonites include BENTONE 27, BENTONE 34, and BENTONE 38. Nakagaki, col. 3, lines 27-29. Maxfield identifies BENTONE-34 as a montmorillonite whose native interlayer cations were ion-exchanged for dimethyldioctadecylammonium cation, which is another name for distearyldimethyl ammonium bentonite. Maxfield, col. 13, line 34, to col. 14, line 3. BENTONE-34

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therefore meets the compositional limitation of "distearyldimethyl ammonium bentonite" as recited in instant claim 22. BENTONE 34 also meets the compositional limitation of the structured silicate salt comprising a low molecular weight, nonpolymeric organic cation as recited in instant claims 1, 5-8, and 24, and the compositional limitation of the structured silicate salt comprising a low molecular weight organic cation as recited in instant claim 23,

Neither JP'295 nor the other cited references identify organic bentonite or BENTONE 34 as a charge control agent as recited in the instant claims. However, as discussed above, JP'295 shows that the addition of organic bentonite to its charge controlling agent improves or controls the charge of the toner. Furthermore, BENTONE 34 meets the compositional limitation of "distearyldimethyl ammonium bentonite" as recited in instant claim 22 and the compositional limitation of the structured silicate salt containing a low molecular weight organic cation as recited in instant claims 1, 5-8, 23, and 24. Thus, it is reasonable to presume that BENTONE 34 has the charge controlling properties recited in the instant claims. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

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It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Murai, Nakagaki, and Maxfield, to use the readily commercially available organic bentonite BENTONE 34 as the organic bentonite in the charge controlling agent composition disclosed by JP'295, and to add the resultant charge controlling agent composition to the toner binder resin to form a toner as disclosed by JP'295. That person would have had a reasonable expectation of successfully obtaining an electrophotographic toner having stable electrostatic charge performances under conditions of high-humidity and high-temperature, as well as under low-humidity and low temperature, as taught by JP'295.

The recitations that the structured silicate salt is added as a charge control agent in claims 1, 5-8, 23 and 24, and that distearyldimethyl ammonium bentonite is added as a charge control agent in claim 22 do not result in a manipulative difference between the method recited in the instant claims and the method rendered obvious over the prior art. Thus, the recitations do not distinguish the method recited in the instant claims from the method rendered obvious over the combined teachings of the prior art.

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13. Applicants' arguments filed on Feb. 9, 2005, with respect to the rejection set forth in paragraph 12 above have been fully considered but they are not persuasive.

Applicants state that because JP'295 discloses that bentonite is used as an "extender," JP'295 does not teach or suggest that a structured silicate salt can be used as a charge control agent. Applicants contend that the office is erroneously employing the concept of inherency in the context of the 103 rejection, citing In re Shetty. Applicants assert the cited references do not make obvious applicants' claimed method of using the structured silicate salt as a charge controlling agent.

However, as discussed in paragraph 12 above, JP'295 teaches that adding the JP'295 charge controlling composition imparts, improves, and controls the charge of the toner. Thus, the combined teachings of JP'295 and the other cited references render obvious the step of adding to a toner binder resin a "charge controlling composition" comprising the JP'295 quaternary ammonium salt compound (1) and BENTONE 34 as the extender.

As discussed in paragraph 12 above, BENTONE 34 meets the compositional limitation of "distearyldimethyl ammonium bentonite" recited in instant claim 22, and meets the

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compositional limitations of the "structured silicate salt" recited in instant claims 1, 5-8, 23 and 24. Thus, as stated in the rejection above, "it is reasonable to presume that BENTONE 34 has the charge controlling properties recited in the instant claims." Furthermore, unlike the facts in Shetty, JP'295 teaches that adding the JP'295 charge controlling composition imparts, improves, and controls the charge of the toner. In addition, BENTONE 34 meets the limitations of distearyldimethyl ammonium bentonite and of the structured silicate salts. BENTONE 34 is not "structurally similar" to distearyldimethyl ammonium bentonite: it is that species. "A chemical composition and its properties are inseparable." Thus, unlike Shetty, the ultimate elected species of modified bentonite is known. The examiner does not need to rely on properties expected for a homologous compound.

Thus, the step rendered obvious over the combined teachings of the prior art meets the step recited in those claims. Furthermore, as discussed in paragraph 12 above, the recitations that the structured silicate salt is added as a charge control agent in claims 1, 5-8, 23, and 24, and that distearyldimethyl ammonium bentonite is added as a charge control agent in claim 22 do not distinguish the method recited in the instant claims from the method rendered obvious over the

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prior art. The recitations do not result in a manipulative difference between the step recited in the instant claims and the step rendered obvious over the combined teachings of the prior art. Unless the intended use results in a manipulative difference as compared to the prior art, a claim drawn to a process of making is fully met by a reference teaching the same step, but not reciting the same intended use. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). Moreover, as discussed in paragraph 12 above, JP'295 discloses that the addition of the extender organic bentonite in its charge controlling agent composition improves or controls the charge of the toner. Thus, a person having ordinary skill in the art would have had a reasonable expectation of successfully controlling or improving the charge characteristics of a toner when using the JP'295 charge controlling composition comprising the JP'295 quaternary ammonium charge control agent and an organic bentonite as the extender in the charge controlling composition disclosed by JP'254.

Applicants further argue that the showing in the Rule 132 declaration, which was executed by Eduard Michael on Nov. 1, 2004, filed on Feb. 9, 2005, clearly shows that the claimed invention provides unexpected results over the prior art.

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However, the showing in the declaration is insufficient to show that the claimed invention provides unexpected results over the prior art because the declaration has not compared to the closest prior art. The examples labeled of the prior art are not a probative comparison to the JP'295. The charge controlling composition 4 in JP'295 is obtained by adding an organic bentonite having an average particle size of 0.5 micrometers to the purified quaternary ammonium salt of formula (1) shown in Table 1 of JP'295, and pulverizing the mixture to obtain a "homogeneous composition." See the translation, paragraph 0030, lines 11-18, and paragraph 0052. JP'295 teaches that the resultant homogeneous composition is then blended with a polyester binder resin in a HENSCHEL MIXER, kneaded in a roll mill, pulverized, and then classified to obtain toner particles. See the translation, paragraph 0054. JP'295 discloses that after mixing the toner with a carrier, the toner had a "saturated electrical charge" of about 24 $\mu\text{C/g}$ under conditions of 30°C and 20% or 80% relative humidity. See Table 2, example 4. JP'295 teaches that "there is no difference in a saturated electrical charging amount and the electrical charging build-up property ability." Translation, paragraph 0061. In the example labeled of JP'295 in the declaration, the toner particles are obtained by incorporating

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dimethyldistearyl ammonium bentonite, an alkylated quaternary ammonium molybdate associated with the tradename TP-415, which is obtained from Hodogaya Chemical Co., using a kneader into a polyester binder resin; milling the kneaded mixture; and classifying the milled mixture to obtain toner particles. The declaration does not disclose that the alkylated quaternary ammonium molybdate associated with the tradename TP-415 has the same chemical composition as the quaternary ammonium salt of formula (1) shown in Table 1 of JP'295. Furthermore, the declaration shows that when the toner particles are mixed with a carrier for 5 minutes, 10 minutes, 30 minutes, and 2 hours, the toner particles had a blow charge of -13, -11, -9 and -8 $\mu\text{C/g}$, respectively, under conditions of 50% relative humidity. The declaration does not show that the toner in the declaration has the charging properties disclosed by JP'295. Thus, the examples labeled of JP'295 in the declaration are not a probative comparison to JP'295. The declaration does not show that the claimed method yields unexpected results over the prior art.

Accordingly, the rejection over the combined teachings of JP'295 and the other cited references stand.

14. Claims 1, 7, 8, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canadian Patent 2,244,367

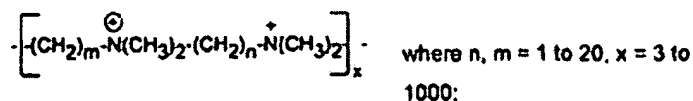
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(CA'367), as evidenced by applicants' admission at page 9, line 21, to page 11, line 26, of the originally filed specification.

CA'367 discloses a method of controlling or improving the charge of an electrophotographic toner or developer or an electret comprising the step of adding an "inter-polyelectrolyte complex" (IPEC) as a charge control agent to the binder resin of the toner or developer or the electret. Page 7, lines 4-22. The IPEC comprises a polyanion-forming compound and a polycation-forming compound. Page 8, lines 1-3. CA'367 discloses that the polyanion-forming compound can be hectorite or bentonite from a list of about 61 examples of polyanion-forming compounds. Page 10, line 8. The polycation-forming compound can be a polymeric ammonium salt obtained by homopolymerizing the monomer of formula (1) disclosed at page 11, lines 10-21; a n,m-ionenes of the formula disclosed at page 12, line 15; or a poly(viologen) of the formula disclosed at page 12, line 20, from a list of about 37 examples of polycation-forming compounds. Hectorite and bentonite meet the limitation of the silicate anion recited in the instant claims. The polymeric ammonium salt, n,m-ionenes, and poly(viologen)s meet the limitation of the "low molecular weight organic cation"

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recited in instant claim 23. The formula representative of the n,m-ionenes is shown below:



The instant specification does not define the term "low-molecular, non-polymeric." However, the originally filed specification discloses that the groups R¹ to R¹⁸ in the "nonpolymeric, ammonium ions" of formulas (a) to (j) can comprise, for example, units of -[O-(CH₂)₁₋₁₂]₁₋₂₀- or -[NH-(CH₂)₁₋₁₂]₁₋₂₀-, or the groups R¹ to R¹⁸ in the "nonpolymeric, ammonium ions" of formulas (a) to (j) can be, for example, a -[(C₁-C₁₂)-alkylene-O]₁₋₁₀₀-H or -(O-SiR'₂)₁₋₃₂-O-SiR'₃. See the originally filed specification at page 9, line 21, to page 11, line 26, in particular, page 11, lines 14-16 and 21-25. In view of the disclosure in the instant specification, it appears that the term "nonpolymeric" according to the instant specification includes repeat units, e.g., at least up to 100 units of -[(C₁-C₁₂)-alkylene-O]-. Accordingly, based on the disclosure in the originally filed specification, when x is 3 to about 100 in the formula representative of the CA'367 n,m-ionenes, the CA'367 n,m-ionenes would appear to meet the limitation of a "low-molecular, nonpolymeric organic cation" as recited in instant

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claims 1, 7, 8, and 24. CA'367 exemplifies making a toner by adding an IPEC to the toner binder resin. The resultant toner is a negative chargeable toner. See Example 1 at page 21, lines 15-17, and Table 3 at page 22, example 1. Thus, the IPEC imparts a negative charge control. According to CA'367, its IPEC possesses good charge control properties and high thermal stability. The IPEC has good dispersibility in customary toners, powder coatings, and electret binders. Page 7, lines 19-22.

CA'367 does not exemplify a method of controlling or improving the charge of an electrophotographic toner or developer or an electret comprising the step of adding the IPEC comprising hectorite or bentonite as the polyanion-forming compound and a polymeric ammonium salt, n,m-ionene, or poly(viologen) as the polycation-forming compound. However, as discussed above, CA'367 teaches that IPEC can comprise hectorite or bentonite as the polyanion-forming compound and the polymeric ammonium salt, n,m-ionene, or poly(viologen) as the polycation-forming compound.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of CA'367, to use an inter-polyelectrolyte complex (IPEC) comprising hectorite or bentonite as the polyanion-forming compound and the polymeric

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ammonium salt, n,m-ionene, or poly(viologen) as the polycation-forming compound, as the IPEC in the method of controlling or improving the charge of the toner disclosed in example 1 of CA'367, because that person would have had a reasonable expectation of successfully obtaining an electrophotographic toner or developer or an electret material having good charging properties as taught by CA'367.

15. Claims 1, 7, 8, 23, and 24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,030,738 (Michel'738), as evidenced by applicants' admission at page 9, line 21, to page 11, line 26, of the originally filed specification.

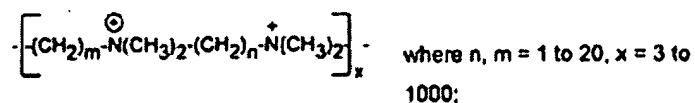
Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter recited in the claims of Michel'738 renders obvious the subject matter recited in the instant claim.

Reference claim 5, which depends from reference claim 1, recites a method of controlling and improving the charge of an electrophotographic toner or developer, or an electret material comprising the step of adding an inter-polyelectrolyte complex in an amount of from 0.01 to 50% by weight to the binder of the

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toner or developer, the powder coating, or electret material.

Reference claim 1 recites that the polyelectrolyte complex comprises a polyanion-forming compound and a polycation-forming compound, wherein the polyanion-forming compound can be hectorite or bentonite. Reference claim 3, which depends from reference claim 1, recites that the polycation-forming compound can be a polymeric ammonium salt obtained by homopolymerizing monomers of the formula (I), a n,m-ionene, and a poly(viologen). Hectorite and bentonite meet the limitation of the silicate anion recited in the instant claims. The polymeric ammonium salt, n,m-ionene, and poly(viologen) meet the limitation of the low-molecular weight organic cation recited in instant claim 23. The formula representative of the n,m-ionenes recited in reference claim 3 is shown below:



The instant specification does not define the term "low-molecular, non-polymeric." However, the originally filed specification discloses that the groups R¹ to R¹⁸ in the "nonpolymeric, ammonium ions" of formulas (a) to (j) can comprise, for example, units of -[O-(CH₂)₁₋₁₂]₁₋₂₀- or -[NH-(CH₂)₁₋₁₂]₁₋₂₀-, or the groups R¹ to R¹⁸ in the "nonpolymeric,

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ammonium ions" of formulas (a) to (j) can be, for example, a -
[(C₁-C₁₂)-alkylene-O]₁₋₁₀₀-H or -(O-SiR'₂)₁₋₃₂-O-SiR'₃. See the
originally filed specification at page 9, line 21, to page 11,
line 26, in particular, page 11, lines 14-16 and 21-25. In view
of the disclosure in the instant specification, it appears that
the term "nonpolymeric" according to the instant specification
includes repeat units, e.g., at least up to 100 units of
-[(C₁-C₁₂)-alkylene-O]-. Accordingly, based on the disclosure in
the originally filed specification, when x is 3 to about 100 in
the formula representative of the n,m-ionenes recited in
reference claim 3, the n,m-ionenes would appear to meet the
limitation of a "low-molecular, nonpolymeric organic cation" as
recited in instant claims 1, 7, 8, and 24. Reference claim 7
recites toners comprising a particular binder resin and from
0.01 to 50 % by weight, based on the total weight of the toner,
of an inter-polyelectrolyte complex comprising a polycation-
forming compound and a polyanion-forming compound, wherein the
polyanion-forming compound can be a hectorite or bentonite.

The reference claims do not recite that the inter-
polyelectrolyte complex is a charge control agent as recited in
the instant claims. Nor do the claims recite that the complex
imparts either a positive or a negative charge as recited in
instant claim 23. However, as discussed above, the

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polyelectrolyte complex recited in the reference claims meets the compositional limitations of the structured silicate salt recited in the instant claims. The reference claims recite a method of controlling and improving the charge of toners, developers, and electrets by adding the polyelectrolyte complex to the binder of toners, developers and electrets. Thus, it is reasonable to presume that the polyelectrolyte complex recited in the claims of Michel'738 has charge controlling properties as recited in the instant claims and imparts a either a negative or positive charge, as recited in instant claim 23. The burden is on applicants to prove otherwise. Fitzgerald, supra.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in the claims of Michel'738, to make and use an inter-polyelectrolyte complex (IPEC) comprising hectorite or bentonite as the polyanion-forming compound and a polymeric ammonium salt, n,m-ionene, or poly(viologen) as the polycation-forming compound, as the IPEC in the method of controlling or improving the charge recited in reference claim 5 of Michel'738, because that person would have had a reasonable expectation of successfully obtaining an electrophotographic toner or developer or an electret material that has improved charging.

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16. Applicants' arguments filed on Feb. 9, 2005, with respect to the rejections set forth in paragraphs 14 and 15 above have been fully considered but they are not persuasive.

Applicants assert that the term "low molecular weight, nonpolymeric organic cation" recited in instant claim 1 excludes the polycation disclosed by CA'367 or recited in the claims of Michel'738.

However, as disclosed in the rejections in paragraphs 14 and 15 above, the originally filed specification does not define the terms "low molecular weight" and "nonpolymeric." For the reasons discussed in paragraphs 14 and 15 above, it appears that the term "nonpolymeric" according to the instant specification includes repeat units, e.g., at least up to 100 units of $-\text{[(C}_1\text{-C}_{12})\text{-alkylene-O]}-\text{}$. Thus, based on the disclosure in the originally filed specification, when x is 3 to about 100 in the formula representative of the n,m-ionenes disclosed in CA'367 or recited in reference claim 3 of Michel'738, the n,m-ionenes appear to meet the limitation of a "low-molecular, nonpolymeric organic cation" as recited in instant claim 1. Accordingly, the rejections of claims 1, 7, 8, and 24 stand.

Applicants assert that the term "low molecular weight, organic cation" recited in the instant claim 23 excludes the polymeric ammonium salt, n,m-ionenes, and polyviologens

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disclosed by CA'367 or recited in the claims of Michel'738.

Applicants assert that "low molecular weight" means "nonpolymeric."

However, the term "low molecular weight organic cation" does not exclude the polymeric ammonium salt, n,m-ionenes, and polyviologens disclosed by the prior art. Instant claim 23 does not recite that the low-molecular weight organic cation is nonpolymeric. Applicants cannot argue patentability based on limitations that are not present in the instant claim. Nor does the originally filed specification support applicants' allegation that the "low molecular weight" means "nonpolymeric." The originally filed specification does not define the term "low molecular weight organic cation" as being "nonpolymeric." Nor does the specification limit the term "low molecular weight organic cation" recited in instant claim 23 as being nonpolymeric. Rather, the originally filed specification at page 9, lines 18-21, states that "[t]he low molecular weight organic cations are preferably substituted ammonium, phosphonium, thionium or triphenylcarbonium ions or a cationic metal complex. Preferred ions are low molecular weight, that is to say nonpolymeric, ammonium ions of the formula (a)-(j)" (emphasis added). Accordingly, the rejections of claim 23 over CA'367 or over the claims in Michel'738 stand.

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17. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (571) 203-8300.

Any inquiry of papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system,

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see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD

Sep. 16, 2005

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